Inter-Agency Forestry Working Group

Sustainability Definitions for Forest Biomass Utilization

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Objective

Develop science-based technical definitions of sustainable forestry and woody biomass harvest practices that can be used consistently by all state and federal agencies in their GHG reduction and energy production programs

- Energy Commission AB 118 Fuels Funding and Renewable Portfolio Standard
- Air Resources Board AB 32, Inventory and LCFS

Woody Biomass and Energy

- **RPS-Eligible Electricity Production**
  - 26 active plants totaling 688 MW produced ~3,200 GWh in 2008
  - Consumed about 3.2 million MBDT (Assuming 1 BDT / MWh)
- **Alternative Fuel Production – Cellulosic Ethanol**
  - Technology approaching commercialization. Expected to be major biofuel.
  - Active planning by Energy Commission, ARB LCFS, and Federal Renewable Fuel Standard (2007 Energy Independence and Security Act)

Available Feedstocks:

- Total Available Biomass: 83 MBDT

  (21 from agriculture, 27 from forestry, 35 from MSW)
- Technical Available: 32 MBDT

  (8 from agriculture, 14 from forestry, 19 from MSW)
- Economic Available: 18 - 25 MBDT depending on market scenario

AB 118 Basics

Alternative and Renewable Fuel and Technology Program

- **Purpose**

  To transform California's transportation market into a diverse collection of alternative fuels and technologies and reduce California's dependence on petroleum.

  *"…**develop and deploy innovative technologies that transform California's fuel and vehicle types to help attain the state's climate change policies."***
  (Health and Safety Code Section 44272(a))

- **$1.5 Billion State Funding Program**

  For the *Alternative & Renewable Fuel and Vehicle Technology Program*, the Energy Commission will receive $120 million/year for over 7 years.

  California Air Resources Board will receive $80 million/year for over 7 years for *Enhanced Fleet Modernization* and *Air Quality Improvement.*

Sustainability and AB 118

- "A rapid transition to alternative fuels has the potential to encourage environmentally destructive production practices
- We have developed sustainability goals and criteria for AB 118, and will consider sustainability in every funding decision we make"

  Commissioner Karen Douglas
  - January, 2009

AB 118 Sustainability Provisions

California Health and Safety Code

Section 44271(a)(2)

"Establish sustainability goals to ensure that alternative and renewable fuel and vehicle deployment projects, on a full fuel-cycle basis, will not adversely impact natural resources, especially state and federal lands."

Controversy Over Sustainability and Renewable Biomass

- **AB 118** Controversy on adoption of sustainability standards and RFS renewable biomass definitions
  - Commission developed own regulatory language
  - Sustainability Working Group
- **LCFS**: Same controversy
  - ARB continuing to evaluate. Will decide in late 09
- **RPS** – Biomass Generators
  - No sustainability requirements

Energy Commission AB 118 Regulatory Language for Forest Biomass Sustainability

Section 3101.5 (F) Projects that use forest biomass resources as part of their feedstock, and that demonstrate the advancement of natural resource protection goals, are those that use forest biomass collection or harvesting practices that do not diminish the ecological values of forest stands, and that are consistent with forest restoration, fire risk management and ecosystem management goals. *(February 2009)*

Energy Commission Draft Proposal to Inter-Agency Forestry Working Group to Develop Sustainability Standards and Definitions for Use in GHG Reduction and Energy Production Programs

CEC Participation in IFWG

Needs and Intended Outcomes

- A consensus concept or vision of what a sustainable forest landscape looks like—in terms of resiliency from disease, drought and fire, ecological function and health, and biological productivity.
- Workable guidelines for assessing the sustainability of forest biomass utilization projects in meeting the goals of AB 118.

Integrate Sustainability Into Tasks 2 and 3

- Expand Task 2 Regulatory Review to Include Sustainability Consideration
  - Key Question During AB 118 Proceeding:

    Do current Forest Practice Act and USFS regulations and procedures result in sustainable production and harvest practices of woody biomass?
- Task 3 Would Need Similar Regulatory Review

Potential Agency/Stakeholder Participation

Cal EPA / Air Resources Board

Department of Fish and Game

Department of Forestry and Fire Protection

Board of Forestry and Fire Protection

Department of Water Resources

Department of Conservation

California Energy Commission

US Forest Service, Region V

US Forest Service, PSW Experiment Station

US Fish and Wildlife Service

US Bureau of Land Management

UC Davis /UC Berkeley

Environmental Stakeholders

Forest Industry Stakeholders

Tribal Governments

Sustainability Factors

- Forest and Fire Ecology
  - biodiversity, biological productivity, wildfire /climate change /drought risks to ecological systems
- Fire Behavior
  - fire intensity/environmental risk with fuel load
- Silviculture
  - stand structures and growth (sequestration) rates
- Forest Pathology
  - disease and insect risks and impacts
- Wildlife Biology

Sustainability Factors

- Soil and Hydrologic Function/health
  - nutrient and water cycling
- Multiple Use Impacts
  - recreation, forage
- Forest Product / Energy Production technologies and economics
- Biomass Harvesting Technologies
- Climatology and Air Resources

Scale Issues For Sustainability

- Geographic scales: stand level, landscape or watershed level, regional and state level
- Temporal scales:
  - Project (1-3 years)
  - Program (1-6 years)
  - Climate policy (1-40 years)
  - Forest rotation (10-200 years)

Proposed Processes and Steps

- Coordination/integration with Task # 2:
  - review of existing knowledge and practices
- Working definition(s) of sustainable forest landscapes -defining criteria and ranges of acceptable performance
- Identify gaps in knowledge and critical issues/concerns

Proposed Processes and Steps

- Team members identify specific landscapes /ecosystems /conditions of concern (eg, “at risk”, high ecosystem value, planned restoration, or exceptional condition)
- Identify key resources: people and agency capabilities
- Develop collaborative, adaptive management process

Proposed Process Guidelines

- Adaptive Management Approach—entertain alternative hypotheses under uncertainty.
- Use real landscapes and experimentation to guide collaborative discussions and debate.
- Evaluate group learning experience with respect to intended outcomes—adaptation.
- Develop flexible guidelines adaptable to a range of environmental conditions.